IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Patent Application No. 10/576,453

Confirmation No. 4116

Applicant: Frank Sieckmann et al.

Filed: April 20, 2006

TC/AU: 3742

Examiner: Nguyen, Hung D.

Docket No.: 810317

Customer No.: 95683

APPELLANTS' REPLY BRIEF

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In reply to the Examiner's Answer dated February 4, 2011, Appellants now submit their Reply Brief

New Grounds of Rejection

The Examiner's Answer did not include any new grounds of rejection.

Argument

Appellants' arguments regarding each of the grounds of rejection presented in the Final Office Action dated August 24, 2010 were included in the Appeal Brief dated November 18, 2010. This Reply Brief includes additional comments regarding the rejection of claims 25, 26, 29 and 47 under 35 U.S.C. §102(b) based on U.S. Patent 5,998,129 to Schutze et al. ("Schutze '129") and the rejection of claims 25, 26, 29, 45 and 47 under 35 U.S.C. §103(a) based on Schutze '129 and U.S. Patent Application Pub. No. 2004/0252291 to Schutze et al. ("Schutze '291").

Rejection of claims 25, 26, 29 and 47 under 35 U.S.C. § 102(b) based on Schutze '129

Appellants respectfully maintain that this rejection should be withdrawn.

The Cited Reference

Schutze '129 describes a process for micro-injection, sorting and harvesting of single biological objects. The microscope slide, on which the biological object is positioned, is moved either by hand, or automatically according to a predetermined pattern in an essentially circular or spiral shape around the chosen object.

> A microscope image that is viewed by a video camera is displayed on the computer monitor, which is not shown in the figures. A marker on the monitor shows the position of the focus of the laser beam. The microscope slide is moved either by hand (controlled by a mouse or joystick), or travels automatically under the control of a computer program in accordance with a predetermined pattern in essentially circular or a spiral shape around the chosen object 10. The marker on the monitor can be regarded as a pointer with which the outline of the desired biological object is drawn.

See Schutze '129, column 7, lines 9-14. A laser beam draws a fine line of approximates 500 nm width around the desired object and separates it from its surroundings. See Schutze '129, column 7, lines 15-20.

Novelty of Claims 25, 26, 29 and 47 with respect to Schutze '129

Independent claim 25 of the present application recites "automatically calculating a contour of the at least one object; [and] automatically defining, based on the calculated contour, a nominal cutting line around the at least one object to be cut out." It is respectfully submitted that Schutze '129 fails to disclose these features. Nowhere does Schutze '129 state that the contour of an object is calculated or that a cutting line is defined based on a calculated contour. Nor is there any indication from Schutze '129, when considered as a whole, that the methods described therein would include these features. In contrast, Schutze states that the slide on which the biological object is positioned is moved either by hand or automatically under the control of a computer program in a predetermined pattern of a circular or spiral shape around the object. Thus, the automatic movement controlled by the computer of Schutze '129 is in accordance with a regular predetermined shape, such as a

circle or spiral, and is not defined based on a contour of an object of a specimen, as required by claim 25.

The Examiner contends that, because the computer program controls the slide to move in a predetermined pattern, "the computer program does all the calculating of the contour of the object so that the microscope slide travels automatically." See Examiner's Answer, page 16, lines 9-12. However, contrary to this assertion, it is respectfully submitted that the automatic movement of the microscope slide does not necessitate that the contour of the object be calculated, as alleged by the Examiner. Instead, using the predetermined pattern, the cutting line in Schutze '129 is formed around the object without the contour being calculated, or the cutting line being defined based on a calculated contour. For example, as shown in Fig. 3 of Schutze '129, the cutting is performed in a simple circle around the object and at a distance therefrom, without the cutting line being defined in accordance with any of the intricacies of the biological object being cut out. Therefore, there would be no need for the method described in Schutze '129 to include calculating the contour of the object, as required by claim 25, since the cutting line does not appear to be at all based on that contour.

With respect to the statement in Schutze '129 that "[t]he marker on the monitor can be regarded as a pointer with which the outline of the desired biological object is drawn," it is respectfully submitted that, when read in the context of Schutze '129 as a whole, a person of ordinary skill in the art would not consider the stated "outline" to be the defined contour of the object, but instead to simply be a line surrounding the object without regard to the contour. Notwithstanding this distinction, Schutze '129 states that this outline is "drawn" using the marker on the monitor as a pointer. Thus, it is clear that the outline described in this sentence is a user-formed outline made with the aid of the monitor and a pointer, and is not formed by a computer calculation or any calculation, as required by claim 25. Again, as set forth above, Schutze '129 merely states that the computer moves the object slide in a predetermined path having a circular or spiral shape. Indeed, the Examiner acknowledges that Schutze '129 does not disclose automatically calculating a contour of at least one object. See Examiner's Answer, page 6, lines 1-2, and page 17, lines 13-14.

Moreover, it is respectfully submitted that Schutze '129 does not in any event provide an enabling disclosure for calculating a contour of the biological object described therein. It is respectfully submitted that a person of ordinary skill in the art at the time of invention

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would not have been enabled, based on the description in Schutze '129 to calculate the contour of the object, as required by claim 25.

Because Schutze '129 does not disclose the above recited features of claim 25, it cannot anticipate claim 25, or its dependent claims 26, 29 and 47. Appellants respectfully submit that the rejection of claims 25, 26, 29 and 47 under 35 U.S.C. § 102 based on Schutze '129 should be withdrawn.

Rejection of claims 25, 26, 29, 45 and 47 under 35 U.S.C. § 103 (a) based on Schutze '129 and Schutze '291

It is respectfully maintained that this rejection should be withdrawn.

The Cited Reference

A description of Schutze '129 is provided above with respect to the rejection under 35 U.S.C. § 102.

Schutze '291 describes a system including an automatic surface area calculation function which is used to calculate a surface area enclosed by a manually drawn cutting line after the freehand drawing of a cutting line around the desired object. See Schutze '291 paragraphs [0015] and [0042].

Non-obviousness of Claims 25, 26, 29, 45 and 47 with respect to Schutze '129 and Schutze '291

Independent claim 25 of the present application recites "automatically calculating a contour of the at least one object; [and] automatically defining, based on the calculated contour, a nominal cutting line around the at least one object to be cut out." It is respectfully submitted that these features would not have been obvious in view of any combination of Schutze '129 and Schutze '291. As set forth above, Schutze '129 does not disclose these features. Nor does Schutze '129 suggest these features. With respect to Schutze '291, that reference does not cure the deficiencies of Schutze '129 and fails to teach or suggest automatically calculating a contour of at least one object and defining a cutting line based on the calculated contour, as required by claim 25. In contrast, Schutze '291 merely describes a

calculation function for calculating a surface area enclosed within a pre-defined cutting line. See Schutze '291, paragraphs [0015] and [0042].

The Examiner states that Schutze '129 discloses the features of capturing and processing an image to ascertain an object to be cut out, "automatically defining, based on the calculated contour, a nominal cutting line around the at least one object to be cut out," and cutting out the object. See Examiner's Answer, page 17, lines 6-13. However, at the same time the Examiner admits that Schutze '129 fails to disclose automatically calculating a contour of the object. See Examiner's Answer, page 17, lines 13-14. It is respectfully submitted that if Schutze '129 fails to disclose calculating the contour of the object, as the Examiner acknowledges, it must necessarily also fail to disclose defining a cutting line based on a calculated contour. It is not possible for the cutting line to be defined, based on the calculated contour, as required by claim 25, if no contour has been calculated.

Schutze '291 fails to cure the deficiencies of Schutze '129 with respect to claim 25, and also does not disclose defining a cutting line based on a calculated contour. Schutze '291 merely describes calculating a surface area enclosed within a cutting line. However, claim 25 requires that a contour be calculated which is used as the basis for defining a cutting line around an object. It is not clear how the calculation of a surface area could be combined with the steps of Schutze '129 to be used in any way for defining a cutting line around an object, as required by claim 25. Further, the surface area that is calculated in Schutze '291 is bound by a cutting line, that has previously been manually drawn. See Schutze '291, at paragraph [0042]. Accordingly, the calculation described in Schutze '291 requires that the cutting line already exist and could not be performed before the cutting line is defined. Thus, it is not possible for the cutting line to be defined based on the calculation described in Schutze '291, since the calculated surface area cannot exist without the cutting line already being defined.
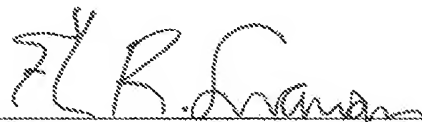
For the foregoing reasons it is respectfully submitted that a combination of Schutze '129 and Schutze '291 could not provide "automatically defining, based on the calculated contour, a nominal cutting line around the at least one object to be cut out," as required by claim 25. Therefore, any combination of Schutze '129 and Schutze '291, to the extent proper, could not render claim 25 or its dependent claims 26, 29, 45 and 47 obvious. Appellants respectfully submit that the rejection of claims 25, 26, 29, 45 and 47 under 35 U.S.C. § 103 (a) based on Schutze '129 and Schutze '291 should be withdrawn.

CONCLUSION

For the foregoing reasons, and those presented in Appellants' Appeal Brief dated November 18, 2010, the rejections of claims 25-50 should be reversed. Appellants respectfully request that the application be remanded to the Primary Examiner with instructions to withdraw the rejections under 35 U.S.C. §§ 102 and 103, and pass the case to allowance.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, including any additional filing or application processing fees required under 37 C.F.R. §1.16 or 1.17, or to credit any overpayment, to Deposit Account No. 12-1216.

Respectfully submitted,

Erik R. Swanson, Reg. No. 40,833
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza
180 North Stetson Ave., Suite 4900
Chicago, Illinois 60601-6731
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

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